REMARKS

Applicants respectfully request reconsideration of all pending claims.

Claims 1-25 are pending. Claims 14, 15, 17-21, 23 and 24 have been withdrawn. Claims 1, 13, 22 and 25 have been amended. No new claims have been added, and no claims have been cancelled. Accordingly, claims 1-13, 16, 22 and 25 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented.

The Applicants reserve the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional applications.

None of the amendments to the specification or the claims introduces any new matter.

Introductory Remarks

The Applicants' pending claims have been rejected primarily over U.S. Patent Application No. 2002/0048112 to Chu et al ("Chu") in the Office Action of March 7, 2005. However, Chu's technique for detection of defects is fundamentally different than the Applicant's claimed method. Chu describes a method that requires demodulating the signal from detected servo bits to determine an intensity of the servo bit (or bits). In contrast, the Applicants' method does not require to demodulation. As will be described in more detail below, Chu does not show or suggest generating a map of anticipated servo burst *patterns* that are compared in order to identify the location of missing servo bursts.

Election/Restrictions

The Office Action set forth a restriction requirement between the following classes:

I. Claims 1-13, 16, 22 and 25, drawn to a method for detecting missing servo patterns, classified in class 324, subclass 212.

II. Claims 14, 15, 17-21, 23 and 24, drawn to a method for identifying a first servo pattern on a printed magnetic media, classified in class 360, subclass 75.

During a telephone conversation with the Examiner on February 1, 2005, Jesus Del Castillo (Reg. No. 51,604) provisionally elected Group I with traverse. The Applicants herein affirm this provisional election.

Thus, Applicants elect Group I, claims 1-14, 16, 22 and 25 with traverse. Further, Applicants believe that the two classes identified by the examiner are closely interdependent and that these claims may easily be searched together.

Applicants expressly reserve the right under 35 U.S.C. §121 to file a divisional application directed to the non-elected subject matter during the pendency of this application, or an application claiming priority from this application.

Information Disclosure Statement

The Office Action has required the submission of non-patent literature listed but not submitted with the Information Disclosure Statement (IDS) filed October 15, 2003. Applicant's apologize for this oversight and have included with this response a copy of each non-patent reference listed in this IDS. Applicants respectfully request that consideration of these references be made of the record.

Specification

The Applicants thank the Examiner for his careful review of the pending Application. By this Response, the Applicants have amended the specification as suggested by the Examiner.

35 U.S.C. §112

Claims 1-13, 16, 22 and 25 stand rejected under 35 U.S.C. §112, second paragraph as being incomplete for omitting essential steps, such steps amounting to a gap between the steps. Applicants address all of the 35 U.S.C. §112 rejections to the selected claims below.

A. Claims 1-13 and 16: "Comparison"

According to the Office Action:

> "Regarding claims 1-13 and 16, the omitted steps are: how the map of identified servo burst patterns are 'compared' to the map of anticipated bursts as recited in the claims. The disclosure contains a mention of a 'comparison algorithm' in paragraph 0058, but fails to disclose the process steps necessary for a person having ordinary skill in the art to make a comparison according to the claims." Office Action of March 7, 2005, page 5.

Applicants respectfully disagree.

The scope and meaning of the recited phrase "comparing the map of identified servo burst patterns with the map of anticipated servo burst patterns to identify missing servo burst" is clear and unambiguous, and would be understood by one of ordinary skill in the art, as required by 35 U.S.C. §112, second paragraph. MPEP §2171. First, one of skill in the art would understand what is meant by "comparing" a map of identified servo bursts with a map of anticipated servo bursts at least because the term "comparing" is clear and definite. The mere fact that there are many ways to compare a map of identified servo burst and a map of anticipated servo bursts does not mean that step of "comparing" is unclear. MPEP §2173.04.

One of ordinary skill in the art would understand that there are many ways to compare two maps of servo bursts to detect where servo bursts are present in one map, but not present in the other. For example, a visual or manual comparison may include a side-by-side comparison. The specification provides different examples describing the step of "comparing the map of servo bursts with the map of anticipated servo burst patterns to identify missing servo bursts. For example, see the paragraphs [0032], [0060], and [0061] of the specification. "Portions of the real map that are expected to show the presence of a servo signal but do not do so are deemed to be areas of missing

servo pattern." Specification, paragraph [0032]. This comparison may be made "on a track by track basis," "in real time, or after the entire disc has been scanned."

The Office Action is inappropriately limiting the recited step of "comparing" to only the use of a "comparison algorithm." A comparison algorithm is but one way to compare the map of identified servo bursts to anticipated servo bursts as recited by the claims. The Applicant should be entitled to the full scopes of the recited claims. MPEP § 2164. In any event, the specification adequately describes what is meant by "comparison algorithm."

Thus, the recited step of "comparing" would be clear to one of ordinary skill in the art, and the recited step is adequately clear under 35 U.S.C. §112, second paragraph. The Applicants therefore respectfully request withdrawal of the 35 U.S.C. §112, second paragraph rejection of claims 1-13 and 16.

B. Claims 13 and 16: "First Servo Burst"

According to the Office Action:

> "Claims 13 and 16 are also missing an essential step, such step amounting to a gap in the elements, i.e., how the *first* servo burst is identified. The specification in Paragraph 0055 notes that following processing of multiple samples, the computer 'quickly identifies' a servo burst and from there, knows where subsequent bursts are. However, there are no intermediate processing steps outlining how the computer determines which burst is the *first* one and which ones are subsequent." Office Action of March 7, 2005, page 5, emphasis added.

Claim 13, from which claim 16 has been amended to remove the term "first," so that claim 13 now recites "identifying a servo burst from the sampled output signals on each additional track". Thus, the 35 U.S.C. § 112, second paragraph rejection of claims 13 and 16 has been mooted.

Applicants respectfully request withdrawal of the 35 U.S.C. §112, second paragraph rejection of claims 13 and 16.

C. Claims 22 and 25: "Expected number of Servo Bursts"

According to the Office Action: "Claims 22 and 25 recites the limitation 'the expected number of servo bursts'. There is insufficient antecedent basis for this limitation in the claims or specification." Office Action of March 7, 2005, page 6.

Applicants have amended claim 22, from which claim 25 depends. Claim 22 now recites: "comparing identified servo bursts with expected servo bursts," as described and illustrated in the Specification. Thus, the 35 U.S.C. §112, second paragraph rejection of claims 22 and 25 has been mooted.

Applicants respectfully request withdrawal of the 35 U.S.C. §112, second paragraph rejection of claims 22 and 25.

Claim Rejections – 35 U.S.C. § 102(b)

Claim 1 stands rejected as being anticipated by Chu. In particular, the Office Action states:

> "Regarding claims 1 and 22, Chu et al. discloses a method to determine defects on a magnetic printed disc comprising... comparing the map of the identified servo bursts to the generated map to identify missing servo bursts. (See Chu et al. paragraph 0048, note that missing servo burst is a defect measured outside the predetermined amount delta, thus Chu et al. would find missing servo bursts." Office Action of March 7, 2005, page 7.

Applicants respectfully disagree.

Chu does not show or suggest comparing a map of identified servo burst *patterns* with a map of anticipated servo bursts to identify the locations of missing servo bursts, as recited in independent claim 1. Instead, Chu describes using the *magnitude* of servo burst signals to detect defective sectors.

According to Chu, a defective sector is determined by comparing the *magnitude* of the servo signals from that sector with a reference magnitude. See, for example, Chu, paragraph [0039] to [0049] ("...[S]ervo defects in a given sector...are detected by comparing some measure of the *magnitude* of the burst signals of the servo bits A, B, C, and D for the given sector to some

reference *value*." Chu, paragraph [0039], lines 4-7, emphasis added. Chu does not determine the location of any missing servo bursts on the magnetic medium.

Chu detects defective sectors, not missing servo patterns. In detecting defective sectors, Chu uses only the magnitude of servo burst signals in a sector, and ignores the pattern of servo signals within that sector. Chu describes a method of summing the intensities of some number of burst signals, and does not care where these signals are located on the magnetic medium, particularly within a sector of the magnetic medium.. Thus, Chu does not retain or record the location of the burst signals, because Chu is concerned only with creating a single value that can be compared to a reference value to detect if a particular sector is flawed. For example, "Continuing to refer to FIGS. 6A and 6B, at block 605 the process 600 proceeds with measuring the magnitude of the servo bit burst signals for the sector i. This value is stored in variable Burst_Sum." Chu at paragraph [0044], lines 1-4. Defective sectors are detected by comparing a magnitude of the servo signal to a magnitude of the reference value. If the magnitude of the servo signal measured from a sector is not within some "delta" (e.g., 30%) of the reference value, then the sector is considered "defective." Thus, Chu compares the magnitude of the servo signals, and does not compare the pattern of servo signals.

Furthermore, Chu does not show or suggest using *anticipated* servo bursts. The "reference value" described by Chus is not based on expected or anticipated servo burst, as recited in independent claim 1. Instead, this "reference value" is a function of the magnitude of burst signals *measured* from the disk being examined. For example, see Chu, paragraph [0042], lines 1-3, "In one embodiment, the reference value is a function of the burst signal measures for a representative sample of sectors on the disk."

Functionally, the Applicant's claimed method is capable of detecting a missing servo burst pattern that Chu would miss. Since Chu does not compare the pattern of servo bursts to an expected or anticipated pattern, Chu would not detect a burst pattern that was completely absent. Chu may be able to detect when a burst pattern is more or less intense than a reference intensity, but Chu will not detect a completely absent burst pattern.

In sum, Chu does not show or describe a method of comparing a map of identified servo burst *patterns* with a map of *anticipated* servo bursts. In order to anticipate, a reference must teach every aspect of the claimed invention either explicitly or impliedly. MPEP §706.02. Since Chu does not show at least a method of comparing a map of identified servo burst *patterns*, Chu cannot anticipate the pending claims. The applicants respectfully request withdrawal of the 35 U.S.C. §102(b) rejection of claims 1 and 22.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 2, 4-6, 8-12, 22 and 25

Claims 2, 4-6, 8-12, 22 and 25 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Chu in view of the spectrum analyzer taught by Richter. According to the Office Action:

> "... Chu et al. does not teach processing using a spectrum analyzer. Richter teaches a method for measuring a signal from a magnetic storage medium comprising a disk and a magnetic reading head... It would have been obvious at the time the invention was made to use such a spectrum analyzer operating in the zero span mode to process the signals measured in Chu et al." Office Action of March 7, 2005, pages 8-9.

Applicants respectfully disagree.

As described above, Chu does not teach comparing a map of identified servo burst *patterns*, as recited by independent claim 1, from which claims 2, 4-6, and 8-12 depend. Further, Chu does not compare identified servo bursts with expected servo bursts at selected polar coordinate in order to detect missing servo patterns as recited by claim 21, from which claims 25 depends.

Even the combination of Chu with a spectrum analyzer (which the Office Action alleges would be obvious to one of skill in the art) does not teach comparing a map of identified servo burst *patterns,* or comparing identified servo bursts with *expected* servo bursts. Thus, the Office Action

has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims 2, 4-6, 8-12, 22 and 25 under 35 U.S.C. §103(a) over Chu with respect to Richter cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 2, 4-6, 8-12, 22 and 25.

Claims 3 and 7

The Office Action specifically rejected claims 3 and 7 under 35 U.S.C. § 103(a) as being allegedly obvious over Chu: "... Chu et al. teaches the signals may be processed using a digital processor, i.e., processed digitally..." Office Action of March 7, 2005, page 9.

Applicants respectfully disagree.

As described above, Chu does not teach comparing a map of identified servo burst *patterns* with a map of anticipated bursts, as recited by independent claim 1, from which claims 3 and 7 depend.

Further, even the combination of Chu with a digital processor does not teach comparing a map of identified servo burst *patterns* with a map of anticipated bursts. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fails to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claims 3 and 7 under 35 U.S.C. §103(a) over Chu cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 3 and 7.

Claim 13

The Office Action specifically rejected claim 13 under 35 U.S.C. § 103(a) as being allegedly obvious over Chu. According to the Office Action:

> "... it is noted that Chu et al. teaches determining a first servo burst, A, followed by servo bursts B, C and D (See Chu et al. paragraphs 0036 and 0039), and further teaches of repeating the process for each track on a disk and for each disk in a stack...." Office Action of March 7, 2005, page 9.

Applicants respectfully disagree.

As described above, Chu does not teach comparing a map of identified servo burst *patterns* with a map of anticipated bursts, as recited by independent claim 1, from which claim 13 depends. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claim 13 under 35 U.S.C. §103(a) over Chu cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claim 13.

Claim 16

The Office Action specifically rejected claim 16 under 35 U.S.C. § 103(a) as being allegedly obvious over Chu. According to the Office Action: "...Chu et al. teaches the signals may be processed using a digital processor..." Office Action of March 7, 2005, page 10.

Applicants respectfully disagree.

As described above, Chu does not teach comparing a map of identified servo burst *patterns* with a map of anticipated bursts, as recited by independent claim 1, from which claim 16 depends.

Further, even the combination of Chu with a digital processor cannot cure this deficiency. Thus, the Office Action has failed to set forth a *prima facie* case of obviousness, at least because the reference cited by the Office Action fail to teach every limitation of the Applicants' pending claims. If even one of the elements required to set forth a *prima facie* case of obviousness is not shown, then the obviousness rejection should be withdrawn. MPEP §2142. The rejection of claim 16 under 35 U.S.C. §103(a) over Chu cannot stand.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claim 16.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal form is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing 146712013300. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: June 6, 2005

Respectfully submitted,

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